

## REMARKS

### **Introduction**

In response to the Office Action dated July 13, 2008, Applicants have amended claim 1. Care has been taken to avoid the introduction of new matter. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

### **Claim Rejection Under 35 U.S.C. § 112**

Claims 1, 4, and 5 are rejected under 35 U.S.C. § 112, first paragraph, as purportedly failing to comply with the written description requirement. The Office Action asserts that the specification fails to provide support for “porous setter made of a high melting-point metal or ceramic.” The Examiner contends that the only reference in the disclosure to a porous setter is a BN porous setter.

Applicants respectfully submit that the rejection is moot in view of the foregoing amendment of claim 1, which deleted the term “metal.”

Claims 1 and 4 are rejected under 35 U.S.C. § 112, second paragraph, as purportedly being indefinite. The Examiner contends that there is insufficient antecedent basis for “the atmosphere” in claim 1.

With respect to “the atmosphere,” one of ordinary skill in this art would recognize that the claimed atmosphere is the surrounding air of the environment, specifically an oxidative atmosphere.

The Examiner further considers claim 4 to be outside of the scope of claim 1 because claim 4 allows the setter to be a permeable material while claim 1 requires a metal or ceramic.

As previously stated, Applicants respectfully submit that the rejection is moot in view of the foregoing amendment of claim 1, which deleted the term “metal.”

Applicants submit that in light of the instant disclosure, the present claims are clear and definite to one of ordinary skill in this art. Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed subject matter, particularly when reasonably interpreted in light of the supporting specification. Therefore, it is respectfully submitted that the imposed rejection under 35 U.S.C. § 112, second paragraph is not legally viable and hence, Applicants solicit withdrawal thereof.

**Claim Rejections Under 35 U.S.C. § 102/103**

Claims 1, 4, and 5 are rejected under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness over Harris et al. (U.S. 5,424,261). Claims 1, 4, and 5 are rejected under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness over Sugiura et al. (U.S. 5,165,983 – hereinafter Sugiura). Claims 1, 4, and 5 are rejected under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness over Japanese Document 08157265. Claims 1, 4, and 5 are rejected under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness over Japanese Document 5-229873. Claims 1, 4, and 5 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent Nos. 4,920,640 (hereinafter Enloe ‘640) and 5,017,434 (hereinafter Enloe ‘434), each taken alone.

In the Response to Arguments section, the Examiner opines that heating to 850°C is not a step necessary to form the claimed finished product, but a heating step to evaluate the warpage of

the finished product. The Examiner contends that heating to 850°C in the instant invention is a means for testing the claimed sintered body.

The heat treatment step of 850°C results in a difference in structure from sintering, the Examiner then chooses to ignore such a difference because the structural difference is generated by a method limitation. However, the Examiner is not free to ignore a method limitation in a product claim in situations where the method limitation **generates a difference in structure**. In this respect, the Examiner's attention is invited to *In re Garnero*, 412 F.2d 276, 162 USPQ 221 (CCPA 1969). There is **no** basis upon which to predicate the conclusion that the recited method limitation does not structurally distinguish the claimed product over the applied prior art.

The Examiner asserts that the Applicants have not shown or presented any tangible evidence to demonstrate a difference between the claimed invention and the prior art. The Examiner also presents the argument that the data set forth in Table 2 demonstrates the benefits of employing a porous setter is not persuasive in overcoming the rejection because the BN plates and sheets of the examples are not described as porous, as well as, the disclosure fails to define any degree of porosity required. The Examiner concluded that most materials have some amount of porosity in that it is nearly impossible to produce a body, such as, a setter that would have a density of 100%. The Examiner contends that using a porous setter to arrive at any unexpected properties, such as, the claimed warpage is not considered to inherently flow from the instant disclosure or the specific examples in that the examples in Table 2 do not require a porous material.

The claimed setters are BN plates and BN sheets that are *porous*, as described in the instant specification and as evidenced by Japanese Patent No. 2614874 and the Declaration under 37 C.F.R. § 1.132 submitted April 11, 2008 (*see, e.g.*, pg. 11, lines 9-11 and Examples 2 and 9-

18 in Table 1 on pg. 18 of the originally filed specification; Exhibit A filed November 21, 2006; and Paragraph 3 and Examples 30-32 in Table 1a of the Declaration). The increment of warp using porous setters is less than the increment of warp in comparative examples 24, 25, and 29 that did not use setters. Specifically, the porous setters have a surface roughness (Rmax) that is 5  $\mu\text{m}$  or less, which reduces the increment in distortion after the heat treatment in an oxidative atmosphere after sintering with ceramics consisting mainly of nitride. With respect to the degree of porosity, the Applicants are not required to define the degree of porosity in the claimed porous setter. As previously pointed out, the structure of the aluminum nitride ceramic base material cannot be obtained by using a setter of different materials or without using a setter.

It is **not** disputed on this record that **none** of the applied references, taken alone or in combination, recognize let alone address the **problem** of increment in warp after heat treatment, much less even hint that it is related in any way to the **uniformity of sintering agents (a/b) as specifically recited in claim 1**.

As set forth on page 20 of the written description, lines 6 et seq., the data in Table 2 demonstrates the benefits of the claimed subject matter upon employing a porous setter. The reported warp after sintering and increment in the warp after heat treatment of the examples representative of the claimed subject matter are significantly superior to the warp after sintering and increment in the warp after heat treatment of the comparative examples. One having ordinary skill in the art would understand from Table 2 what is meant by significantly reduced warp after sintering and reduced increment in warp after heat treatment based upon such comparative data.

None of the applied references disclose a porous setter made of high melting-point permeable ceramic, as required by amended claim 1.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that “inherency may not be established by probabilities or possibilities,” *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999)), in a single prior art reference, *Akzo N.V. v. U.S. Int’l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that the cited references do not anticipate claim 1, nor any claim dependent thereon. The dependent claims are allowable for at least the same reasons as claim 1.

Based upon the arguments submitted *supra*, it should be apparent that a *prima facie* basis to deny patentability to the claimed invention has not been established for want of the requisite factual basis. Moreover, there are potent indicia of nonobviousness of record to support the patentability of the present claimed subject matter. Indeed, the advantageous effect of the present invention in the smooth surface of the setter suppresses the distortion of the formed body during sintering, is unknown to the prior art of record. Accordingly, the rejection of claims 1, 4, and 5 should be withdrawn.

#### **Double Patenting Rejection**

Claims 1, 4, and 5 are rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1, 4, and 5 of U.S. Patent Serial No. 11/907,020.

An Amendment was filed for copending U.S. Patent Serial No. 11/907,020 on May 14, 2008. Claim 1 of copending U.S. Patent Serial No. 11/907,020 was amended to recite method claims, in order to overcome the double patenting rejection.

Withdrawal of the foregoing rejections is respectfully requested.

**Conclusion**

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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